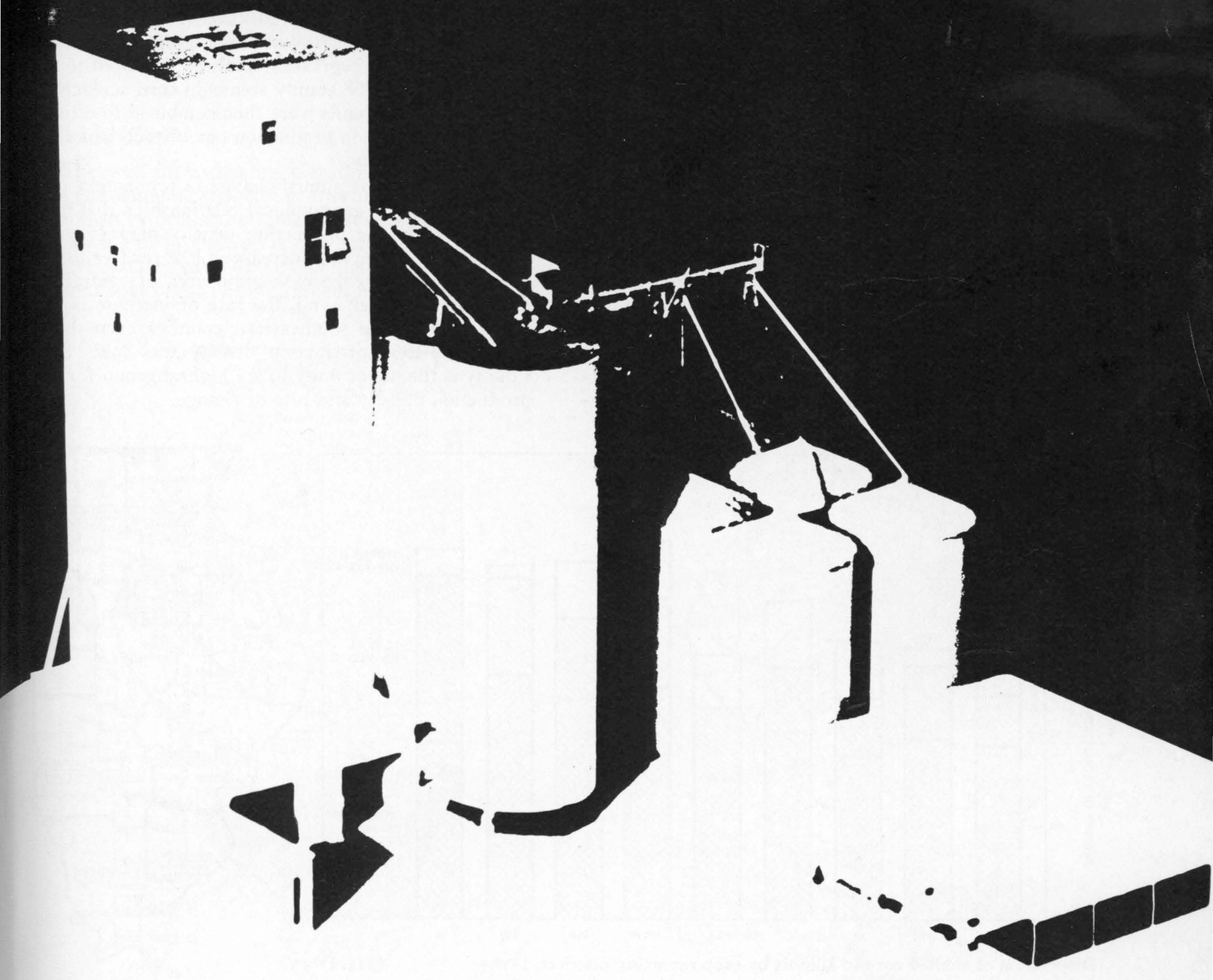
Adequacy of Elevator Capacity in Illinois Counties



University of Illinois at Urbana-Champaign College of Agriculture/Cooperative Extension Service Circular 1015

EXPANSION of elevator capacity in many Illinois counties has not kept pace with the increased demand for marketing services. The pressure on elevator facilities continues to increase as a rapidly expanding volume of corn with an increasingly higher moisture content is delivered to elevators during a gradually shortening harvest period. The severity of marketing problems is not uniform across the state because the trends in field shelling, marketing direct from fields, and on-farm and off-farm storage differ widely from region to region (Fig. 1).

Information in this circular should help farmers and marketing firms to make the adjustments in drying and storage capacity that are necessary for a more efficient marketing system. Most of this analysis deals only with the adequacy of elevator storage capacity. A lack of published data prevents a similar analysis of the other marketing functions, but because capacity is closely related to such services as drying, most of the conclusions regarding storage capacity are also relevant for other services provided by the country elevator.

Concentration of Production

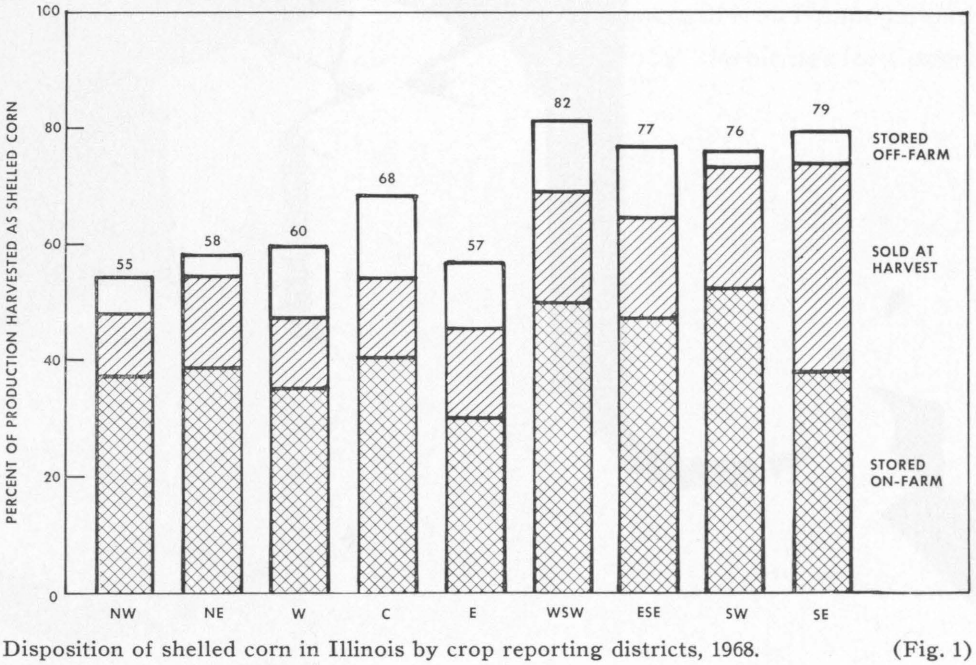
Corn production is geographically concentrated, with about one-fourth of the nation's production grown in Illinois and one-fourth of Illinois' production grown in ten counties of the state. The areas of concentration within the state are indicated in Figure 2. Production density is calculated as production per acre of total farmland in a county, so that the data for different-sized counties are comparable. Numerical data for production density in every county are given in the table on pages 11-12, as are the data for all the subsequent maps in this circular.

The highest production density is found in central Illinois, where corn is an important cash-grain crop, and in northwestern Illinois, where both livestock and grain are important farm products. Counties in southern Illinois generally have a very low density except for a few along the Wabash and Ohio Rivers.

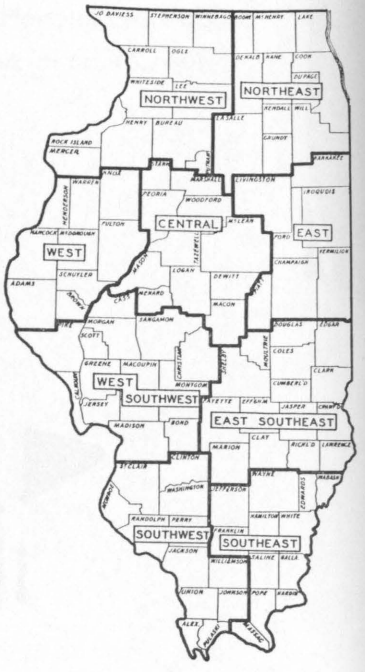
Adequacy of storage, conditioning, and marketing facilities is affected not only by the level of production but also by the rate of increase or decrease in production. The more rapidly production increases, the more difficult it is to meet the expanded demand for facilities.

The rate of change in production from 1961 through 1968 is shown for each county in Figure 3. The statistical technique of regression analysis was used to estimate the 1961-1968 county trends in corn acreage and in yield. These trends were then combined to estimate the rate of change in production per 100 acres of farmland in each county.

The map for the annual change in production (Fig. 3) shows several geographical relationships that differ from those in the production density map (Fig. 2). The rate of production increase is low relative to production density in the cash-grain area of central Illinois. On the other hand, the rate of increase is relatively high in the southeastern counties even though their 1966-1968 production density was low. Stark County is the only county in the highest group for both production density and rate of change.



Disposition of shelled corn in Illinois by crop reporting districts, 1968. (Fig. 1)



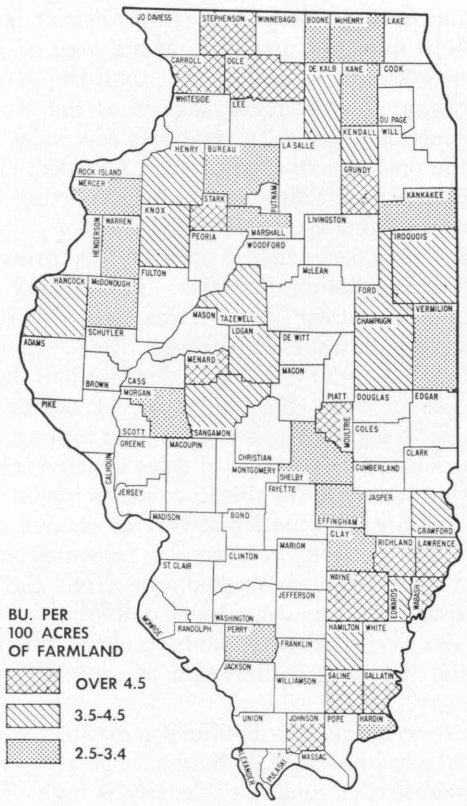
This circular was prepared by LOWELL D. HILL, Associate Professor of Agricultural Marketing.

The information in Figures 2 and 3 was integrated into a single map (Fig. 4) by projecting county production density to 1975 on the basis of the 1961-1968 trends in acreage and in yield. This projection is a reasonable estimate of 1975 production only if changes in yield and acreage continue at the same rate as from 1961 to 1968. Many factors could alter these estimates, such as withdrawal of land from production because of urban expansion, changes in relative prices of other crops competing for the same land, or changes in government programs.

Some of the projected changes from the 1966-1968 density pattern can be attributed to a rapidly increasing production in counties of above-average production density such as Gallatin, Moultrie, and Ford. Bureau and Piatt drop out of the highest-density group in the 1975 projection because of their relatively stable production.

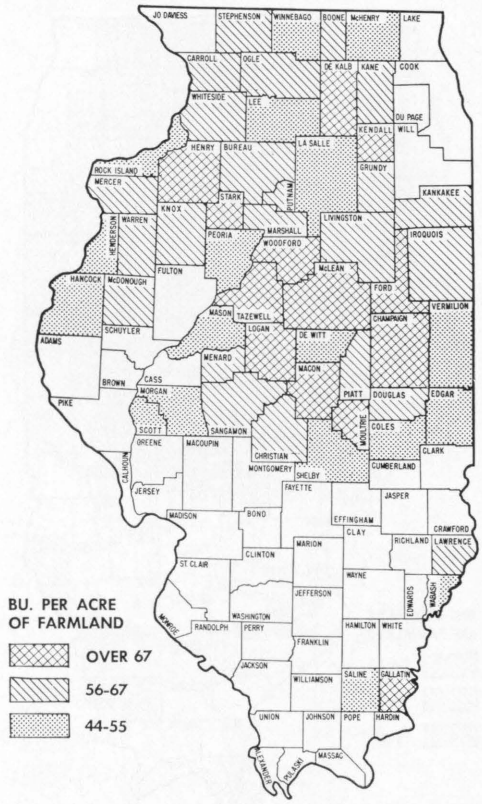
Sales of Corn

The need for expanding elevator storage, conditioning, and handling capacity is affected more by sales of corn than by production, since in some counties a large proportion of production is dried and stored on farms. Figure 5 shows sales density, or the number of bushels of corn sold per acre of farmland in each county. Al-



Rate of change in production density of corn, 1961-1968. (Fig. 3)

Production density of corn, 1966-1968. (Fig. 2)



Projected 1975 corn production density. (Fig. 4)

though the Central Crop Reporting District is important in both sales and production, the area of greatest sales concentration is farther east than the production concentration. In the livestock area of the Northwest Crop Reporting District, a relatively low sales density reflects the on-farm storage of corn for feed. The low sales density in the Southwest Crop Reporting District is the result of relatively low production.

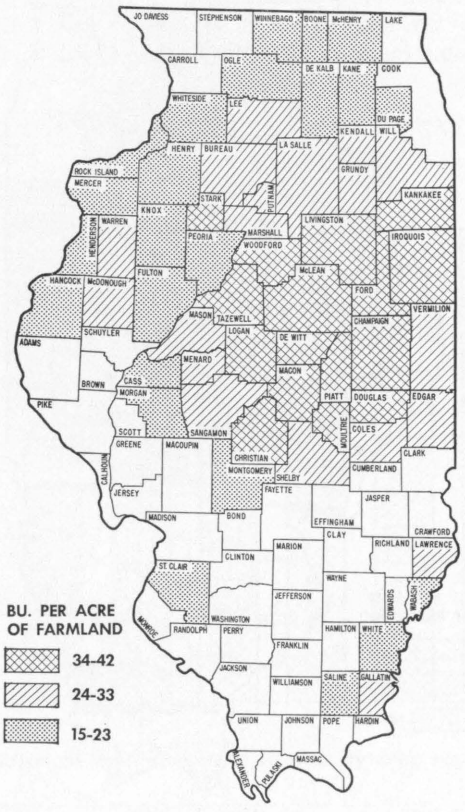
Changes in sales density indicate the growth rate required of marketing facilities. The annual rate of change in each county (Fig. 6) was estimated from the trend in sales from 1961 through 1968. In general, counties with a high density of sales also had the greatest increase in sales. For example, 11 of the top 15 counties in density of sales were also among the top 15 counties in rate of change of sales density. The same relationship was true for the 15 counties lowest in sales density and the 15 counties lowest in change of sales density. There were, however, a few exceptions of interest: Piatt County ranked 6th from the top in sales density but was 34th highest in rate of change of sales density; Gallatin County ranked 16th in sales density but was first in the state in rate of change of sales density.

Pressure on marketing facilities is greatest at harvest — particularly in counties where a large proportion of corn is field-shelled and sales density is high. In these counties a large total elevator capacity is necessary, and the turnover rate for the individual elevator is relatively low since much of the annual sales is delivered at harvest.

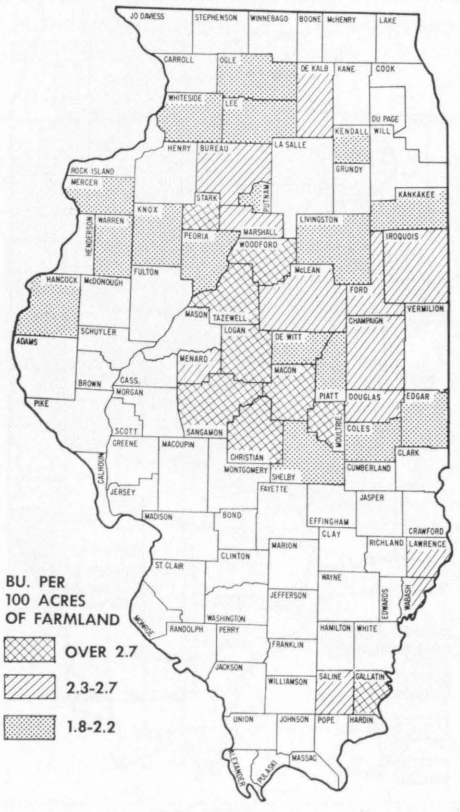
A measure of the demand for marketing facilities is the volume of corn sold directly from the field plus the volume of corn stored for farmers in commercial facilities. However, these data are available only on a district basis.[1] To obtain estimates at the county level, the total volume of corn still on farms on January 1 and the volume of corn fed between harvest and January 1 were estimated for each county and subtracted from the county's total production.[2] The difference was assumed to be the volume of corn delivered to the elevator at harvest (Fig. 7), either as sales direct from the field or as farmer-owned corn placed in commercial storage. The highest concentration is in the cash-grain area of central Illinois. The counties along the Wabash and Ohio Rivers, especially Gallatin, also show a large volume of corn moved through commercial facilities at harvest.

[1] The Illinois Cooperative Crop Reporting Services publishes annual data on "Percent of Shelled Corn: Marketed Direct from Field and Stored Off-Farm Commercial," in *Corn — Harvesting, Handling, and Drying Methods.*

[2] The procedure and computations are shown in detail in M. K. von Oppen and L. D. Hill, "Estimating the Quantity of Corn Moved From Farms to Elevators in Illinois Counties," *Ill. Agr. Econ.*, vol. 10, no. 1, 1970.



Sales density of corn, 1966-1968. (Fig. 5)



Rate of increase in sales density of corn, 1966-1968. (Fig. 6)

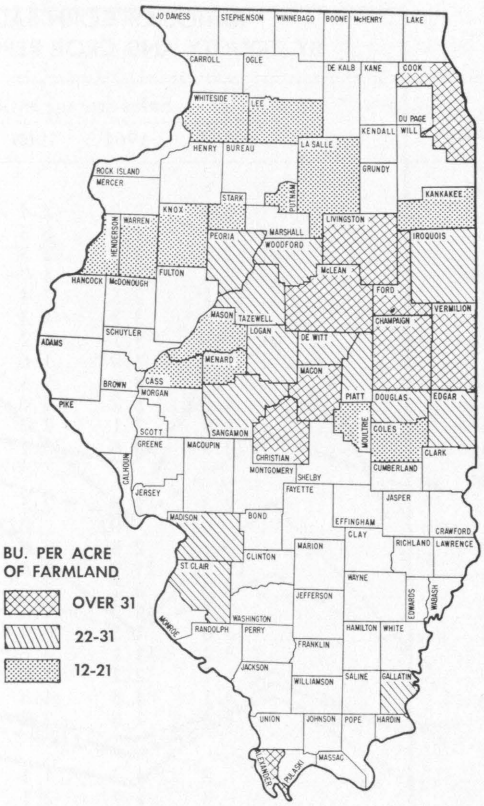
County Storage Capacity

The availability of off-farm storage for corn varies widely among regions of the state. If commercial storage capacity in each county is divided by acres in farmland to permit comparisons among counties, the areas with large commercial storage capacity (Fig. 8) tend to parallel the areas of concentrated production (Fig. 2) and sales (Fig. 5). The disproportionately high concentration of capacity in Cook, St. Clair, and Alexander Counties is due to the presence of terminals, export facilities, and river subterminals rather than country elevators.

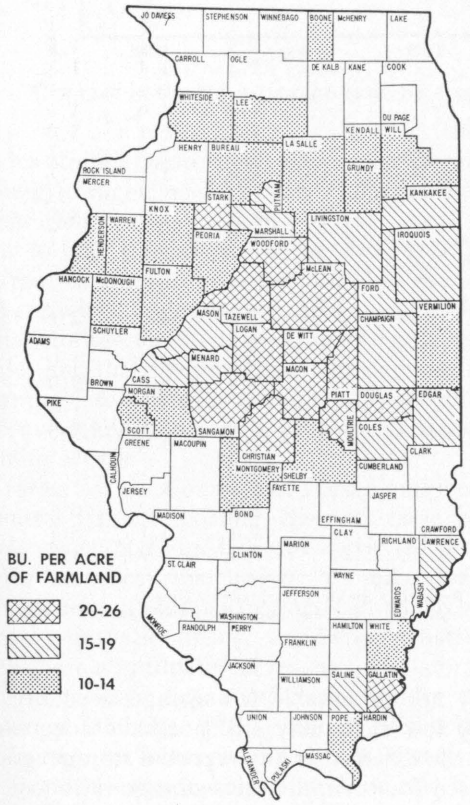
The data in the table on pages 11-12 (columns 6 and 7) permit more detailed comparisons between the available storage and the quantity of corn on the market in each county. Counties where the bushels of corn on the market exceed the storage capacity (such as Lawrence, Wabash, and Stark) will encounter severe problems in the years when corn is delivered at high moisture levels during a short harvest season.

The Sales-Storage Ratio

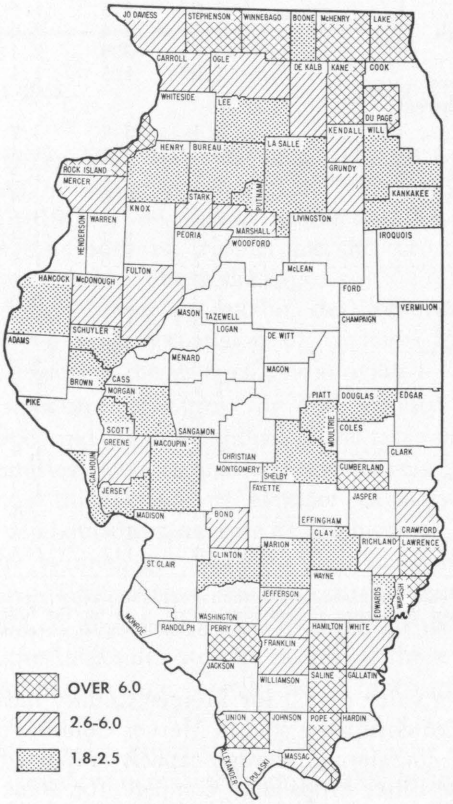
A measure of the adequacy of elevator facilities, readily available from secondary data, is the ratio of sales to storage capacity. The data for Figure 9 were obtained by dividing the average number of bushels of corn sold in 1966, 1967, and 1968 by the bushels of commercial storage reported for January 1, 1969. For



Density of off-farm commercial storage capacity, 1969. (Fig. 8)



Corn moved off-farm at harvest, 1967. (Fig. 7)



Average ratio of sales to storage, 1966-1968. (Fig. 9)

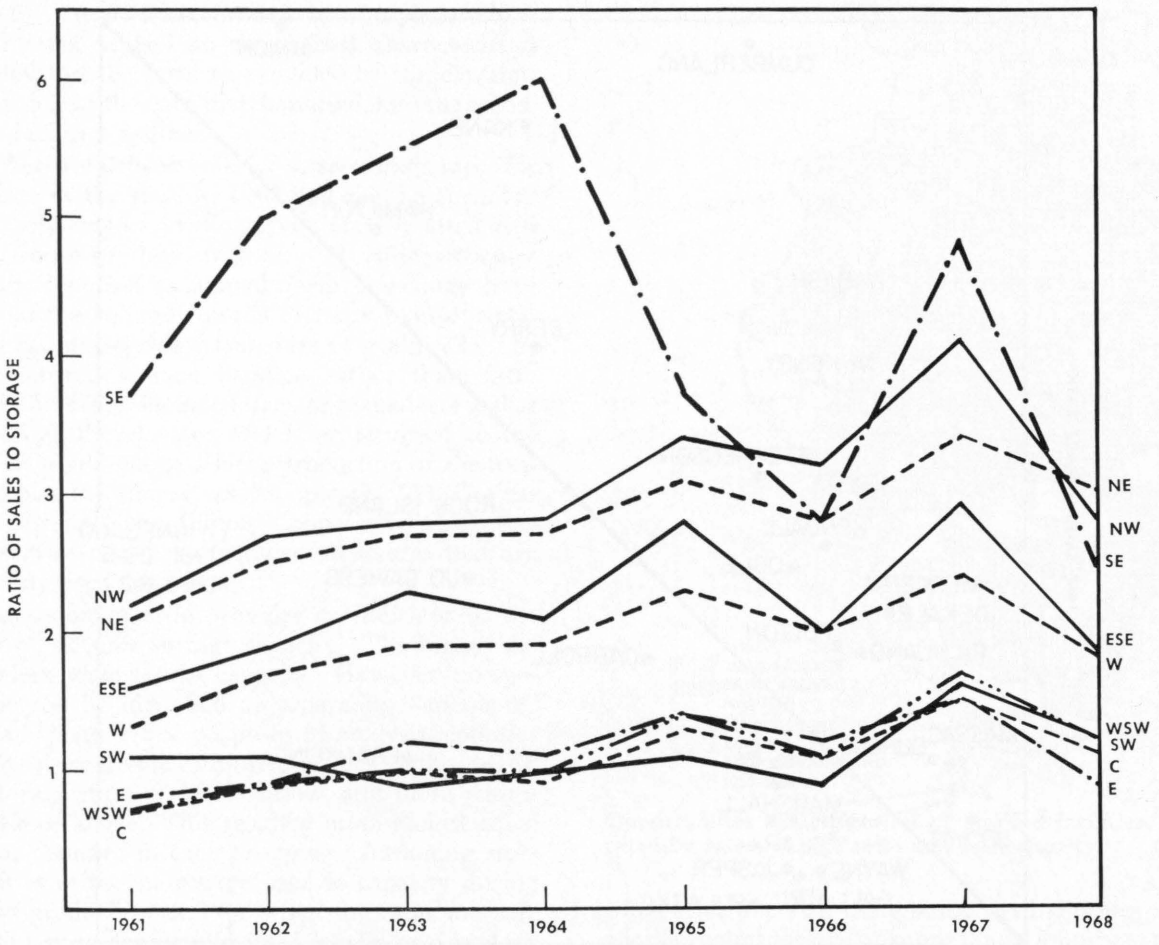
RATIOS OF CORN SALES TO COMMERCIAL STORAGE CAPACITY BY COUNTY AND CROP REPORTING DISTRICT, 1961, 1964, 1966, AND 1968[a]

Districts and counties	Sales-storage ratio			
	1961	1964	1966	1968
Northwest				
Bureau	1.4	1.9	2.4	2.8
Carroll	5.7	7.4	8.5	4.3
Henry	2.0	2.5	2.5	2.6
Jo Daviess	8.4	15.0	4.9	5.6
Lee	2.1	2.5	2.4	2.3
Mercer	2.3	3.3	4.3	5.4
Ogle	3.5	5.1	6.2	5.7
Putnam	1.5	1.9	1.6	1.8
Rock Island	7.9	8.8	9.4	6.4
Stephenson	4.0	5.2	9.6	7.1
Whiteside	1.8	2.1	2.2	1.2
Winnebago	20.5	20.6	25.1	6.2
Northeast				
Boone	2.3	2.8	2.5	2.1
Cook	.02	.02	.02	.02
DeKalb	2.1	2.8	3.6	5.0
DuPage	15.9	21.9	(9.6)[b]	(12.5)[b]
Grundy	2.0	2.7	3.2	2.8
Kane	7.5	12.2	11.5	12.4
Kendall	3.0	4.3	10.9	6.0
Lake	8.2	11.1	(9.6)[b]	(12.5)[b]
LaSalle	1.7	2.1	1.9	1.7
McHenry	3.1	4.8	4.3	8.5
Will	1.6	1.8	2.2	2.3
West				
Adams	.8	1.2	1.1	1.3
Brown	.8	1.7	2.1	1.9
Fulton	2.8	4.4	4.8	4.5
Hancock	1.1	2.2	2.8	2.2
Henderson	1.0	1.5	1.3	1.1
Knox	1.0	1.5	1.6	1.6
McDonough	2.4	3.6	3.6	3.0
Schuyler	3.1	3.9	2.4	2.2
Warren	1.0	1.5	1.4	1.2
West Southwest				
Bond	3.1	3.2	3.7	3.3
Calhoun	2.3	1.4	(1.3)[b]	(2.3)[b]
Cass	.9	1.1	1.2	1.3
Christian	.7	1.0	.9	.9
Greene	2.7	3.5	3.5	2.8
Jersey	.9	1.4	(1.3)[b]	(2.3)[b]
Macoupin	1.2	1.6	1.5	1.6
Madison	.2	.3	.3	.4
Montgomery	1.3	1.7	2.0	1.6
Morgan	.9	1.4	1.3	1.8
Pike	.5	.8	.7	.8
Sangamon	.6	.9	1.3	1.3
Scott	1.3	1.6	1.4	2.1
Central				
DeWitt	1.4	1.6	1.4	1.3
Logan	1.4	1.5	1.6	1.5
McLean	.9	1.0	1.2	1.1
Macon	.3	.3	.4	.5
Marshall	1.1	1.4	2.4	2.3
Mason	1.4	1.7	1.3	1.6
Central (Continued)				
Menard	.9	.9	1.1	1.3
Peoria	.8	.8	1.0	.8
Stark	1.9	1.6	3.0	2.5
Tazewell	.6	1.4	1.6	1.4
Woodford	.8	.8	1.5	1.2
East				
Champaign	.8	1.3	1.3	1.0
Ford	.4	.5	.7	.5
Iroquois	1.2	1.5	1.5	1.3
Kankakee	1.3	1.5	1.9	1.8
Livingston	.7	.9	1.2	.8
Piatt	1.8	1.8	1.3	1.0
Vermilion	.7	.8	.9	.8
East Southeast				
Clark	2.9	2.0	1.8	1.6
Clay	3.8	4.3	2.4	2.4
Coles	1.3	1.8	1.8	1.7
Crawford	3.2	3.3	3.4	3.5
Cumberland	4.2	6.0	5.6	13.7
Douglas	1.6	2.4	2.3	1.7
Edgar	.8	1.2	1.4	1.1
Effingham	.7	1.1	1.0	1.1
Fayette	2.1	2.4	2.0	1.4
Jasper	3.6	2.0	1.5	1.1
Lawrence	9.5	18.4	13.9	10.2
Marion	2.6	3.3	4.0	2.4
Moultrie	1.6	2.4	1.9	1.7
Richland	2.5	3.3	3.7	4.4
Shelby	2.3	3.2	2.6	2.3
Southwest				
Alexander	.1	.1	.1	.2
Clinton	1.5	1.4	1.3	1.9
Jackson	2.3	1.4	1.3	1.6
Johnson	...	...	...	...
Monroe	1.6	1.6	1.6	1.7
Perry	7.4	6.1	5.0	9.0
Pulaski	4.1	.5	.7	.6
Randolph	1.0	1.1	.7	.8
St. Clair	.3	.3	.3	.4
Union	11.2	11.5	13.1	13.9
Washington	.9	.8	.7	1.0
Williamson	...	...	...	...
Southeast				
Edwards	2.6	4.1	2.6	2.1
Franklin	9.3	7.7	(7.3)[b]	2.8
Gallatin	3.4	6.7	1.0	1.0
Hamilton	9.8	15.2	9.0	10.8
Hardin	...	...	...	...
Jefferson	3.0	4.0	4.4	2.7
Massac	1.2	2.8	2.2	2.7
Pope	11.6	...	...	(7.7)[b]
Saline	5.3	8.4	(7.3)[b]	(7.7)[b]
Wabash	2.8	6.2	6.7	9.8
Wayne	3.1	5.1	3.7	1.2
White	3.9	5.9	3.9	4.6

[a] These data are based on the annual statistical reports of the Illinois Cooperative Crop Reporting Service, Springfield, Illinois.
[b] To avoid disclosure of individual firms, data for the following pairs of counties were combined: DuPage and Lake; Calhoun and Jersey; Franklin and Saline. In 1968, data for Pope and Saline Counties were combined.

example, a value of 5.0 for Mercer County means that 5 bushels of corn were sold in Mercer County for every bushel of commercial storage capacity reported.

Because other crops may compete for some of the available storage, and also because some reported facilities may not be suitable for storage, a county with a relatively low ratio may still not have adequate storage. To the extent that any reported storage space cannot be used for corn, the sales-storage ratio will understate the seriousness of the problem. A county with a



Changes in the sales-storage ratio by crop reporting district, 1961-1968. (Fig. 10)

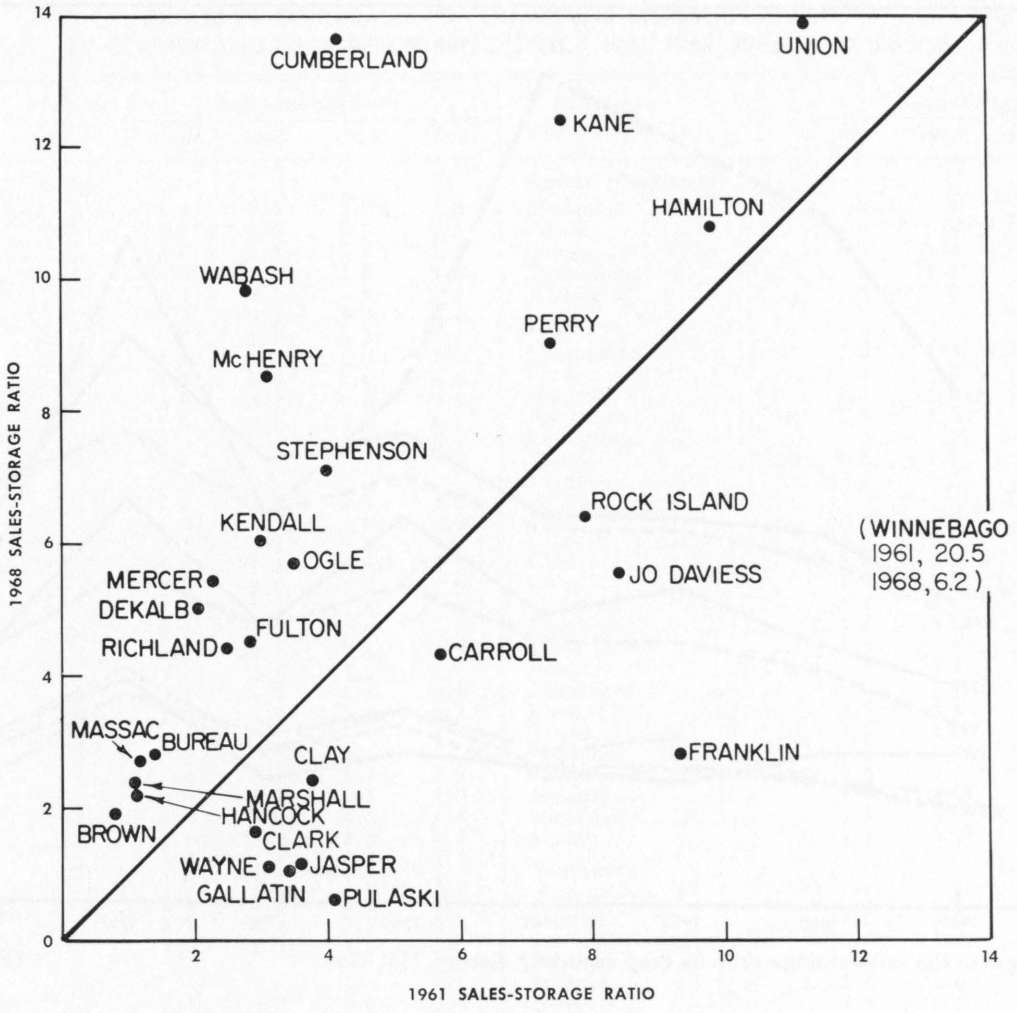
high sales-storage ratio, however, will generally have inadequate storage capacity, even if all facilities are in good condition.

Year-to-year variations in the sales-storage ratio result from changes in production and sales as well as storage capacity. A decreasing sales-storage ratio indicates that storage facilities are expanding more rapidly than sales and that the problem of inadequate facilities is becoming less serious. A high ratio which has increased over time indicates a problem situation which is becoming worse.

The ratios for the Southwest, West Southwest, East, and Central Crop Reporting Districts have remained relatively constant (Fig. 10), for increased production and sales have been matched by a similar increase in storage capacity at local elevators. In the Northwest, Northeast, East Southeast, and West Districts, the trend has been a gradually increasing sales-storage ratio because sales have expanded more rapidly than off-farm storage facilities. The decline in 1968 is the result of the decrease in sales associated with lower yields.

The greatest changes are found in the Southeast District. There, a rapid increase in production and sales between 1961 and 1964 was followed by a large expansion of elevator storage in Gallatin County in 1965. In 1966 a decline in production lowered the ratio for the Southeast District, but the record crop of 1967 again raised it above the ratios for the other areas of the state. Lower production in 1968 was accompanied by a large expansion of capacity in Wayne County, lowering the district's ratio again to 2.4.

The sales-storage ratios for each county in 1961, 1964, 1966, and 1968 are shown in the table on page 6. Most counties have maintained a relatively stable ratio during this period, as elevator capacity has increased at about the same rate as production. The high ratios in Winnebago, Carroll, Kendall, and Wayne Counties in 1966 were a strong economic stimulus for expansion. Completion of new facilities signficantly decreased the 1968 sales-storage ratios for those counties. For example, storage capacity in Winnebago County increased from 102,000 bushels January 1, 1968, to 677,000 bushels January 1, 1969; Wayne County's storage capacity increased from 680,000 bushels January 1, 1968, to 2,365,000 bushels January 1, 1969.



Counties with sales-storage ratio change greater than 1.0, 1961-1968. (Fig. 11)

Those counties whose ratios have changed by more than 1.0 are arranged in a graph (Fig. 11). Any county above the diagonal line has had an increase in the sales-storage ratio — that is, sales have increased more rapidly than commercial storage capacity.[1] Any county below the line has had a decrease in the sales-storage ratio. The farther a county lies from the origin of the graph, the higher is its ratio; the greater its vertical distance from the diagonal line, the greater the change in its ratio between 1961 and 1968.

Some counties with a high sales-storage ratio (that is, counties apparently having inadequate storage) may be adjacent to counties with excess capacity. The table on page 6 and Figure 11 should therefore be used in conjunction with the map in Figure 9 to determine where corn from one county may be marketed in another.

[1] Points above the line could also represent a decrease in storage which exceeded the decrease in sales, but no county in Illinois experienced a decrease in sales from 1961 through 1968.

Criteria for Storage Adequacy

Both the sales-storage ratio (annual sales of corn divided by total commercial storage capacity) and the turnover rate (total volume of corn handled at each elevator divided by the capacity of the elevator) can be used to measure the adequacy of facilities.

The average sales-storage ratio for Illinois, based on data published by the Illinois Cooperative Crop Reporting Service, was 1.2 for the five-year period, 1962-1966. The record crop of 1967 increased the demands on existing facilities as evidenced by that year's ratio of 1.7, which was 40 percent higher than the 1962-1966 average. A survey of 117 elevators in 20 Illinois counties showed an average turnover rate of 3.6 in 1967. If we assume this figure also represented a 40 percent increase over the 1962-1966 average, the turnover rate for these elevators would average 2.5 in a "normal" year.

Data from the survey indicated considerable variation among counties and among elevators in their turn-

over rates — from a low of 0.8 to a high of 26.3. Turnover rates depend on the market characteristics for the elevator, the services provided by the elevator, the disposition of the corn merchandised, and the transportation facilities available.

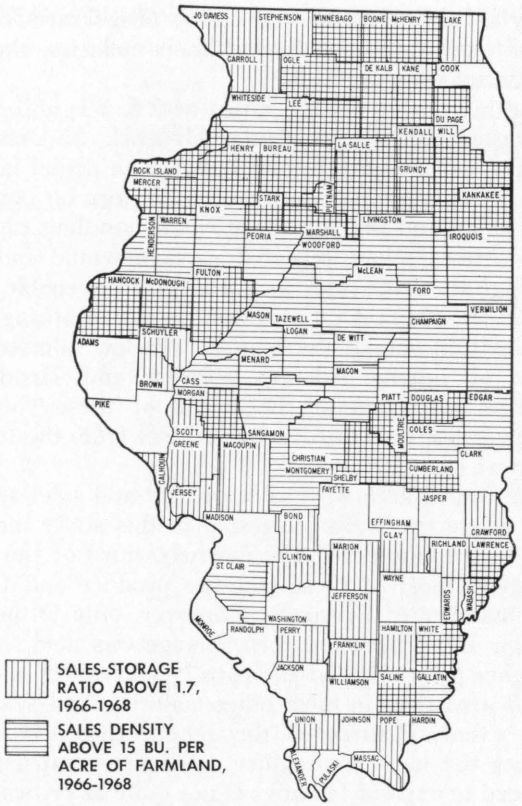
The difference between the 1.7 sales-storage ratio for all elevators in the state in 1967 and the 2.5 turnover rate for the elevators in the survey may be attributed to one or more of these factors: (1) Any particular lot of corn reported as annual farm sales may have appeared in the volume records of more than one elevator due to inter-elevator transfers of grain. (2) The survey measured volume handled rather than farm sales and therefore included farmer-owned corn that was stored at the elevator and later returned to the farm. This would not be a large proportion of the total but could bias the survey results upward. (3) The capacity reported to the Illinois Cooperative Crop Reporting Service may have included structures that are not currently used for storage.

The sales-storage ratio provides an indicator of the adequacy of elevator storage capacity. The higher the ratio, the less adequate the capacity. However, no specific value can be identified as separating "adequate" from "inadequate." For purposes of analysis, counties in the state were divided into two groups — those with a sales-storage ratio of 1.7 or below, and those with a ratio of 1.8 or above. This resulted in an almost equal number of counties in each grouping. Assuming storage facilities in the state were used to capacity during the record production of 1967 when the ratio was 1.7, this division provides a guide for determining adequacy of facilities. (See Figures 9 and 12.)

Considering all counties with a ratio higher than 1.7 to have inadequate capacity is an oversimplification since adequacy is a relative rather than an absolute term, and since conditions vary between counties. For example, a county with a large volume of other grains competing for storage space may have inadequate capacity even though its sales-storage ratio is below 1.7. However, this figure is a convenient point at which to separate the counties on the basis of relative adequacy of storage space. It should be emphasized that the state sales-storage ratio of 1.7 was associated with a turnover rate of 2.5 for individual elevators.

Opportunities for Expansion of Elevator Capacity

A sales density of 15 bushels per acre is equivalent to a volume of 3 million bushels of corn within a 10-mile radius of any point. If an elevator could obtain 90 percent of the corn sold within a 5-mile radius and 50 percent of the corn sold between a 5-mile and a 10-mile radius, a density of 15 bushels per acre would support an elevator with a capacity of 500,000 bushels. Figure 12 was constructed on the basis of this somewhat arbitrary size designation. All counties with an average sales density of more than 15 bushels per acre for the 1966-1968 period are identified with horizontal lines. Vertical lines indicate the counties with a 1966-1968 average sales-storage ratio of 1.8 or above. The overlap of horizontal and vertical lines indicates the areas having the greatest need for expansion of facilities. Four such areas are shown on the map.



Opportunities for expansion of storage facilities, as indicated by sales-storage ratio and sales density. (Fig. 12)

One area consists of Lawrence, Wabash, White, and Saline Counties. Few grain storage facilities have been built in this area during the past ten years despite rapid increases in production and sales. The high proportion of the crop harvested as shelled corn and sold at harvest increases the pressure on the existing handling and storage facilities. Although the high-capacity facilities in Gallatin County draw some corn from these four counties, there is evidence that additional facilities are needed to handle the expanding volume. Several other counties in southern Illinois have a sale-storage ratio above 1.7, but their density of production is not sufficient to justify an elevator with as much as a 500,000 bushel capacity.

The four-county area of Moultrie, Shelby, Douglas, and Cumberland Counties has a density of sales and production that has been increasing rapidly. Storage capacity has also been increasing, but it has not kept pace with demand. Although the inadequacy of ca-

pacity as measured by the sales-storage ratio is less severe than in the southern Illinois counties, there is still a need for expansion.

The high sales-storage ratios of 2.0, 3.1, and 5.0 in the western Illinois counties of Hancock, McDonough, and Fulton probably do not indicate an actual lack of services. The presence of river elevators on both the Mississippi and the Illinois provides handling capacity much greater than reported storage would indicate. The high turnover rates for river elevators enable rapid movement of grain off farms to points of storage and consumption outside the county. The low sales-storage ratios of nearby Adams, Warren, and Henderson Counties also suggest that some of these counties' storage capacity is utilized by farmers from the former group of counties.

The fourth area with sales density and sales-storage ratio above the limits suggested in this study includes most of the counties in the northern third of the state. However, most of these counties produce and feed a large number of livestock; moreover, only 56 percent of their 1968 harvested corn acreage was field shelled. A higher proportion of the corn is sold out of the crib in this area than in most other counties, and sales are more evenly distributed throughout the year. This reduces the harvest pressure on elevator capacity, so the need to expand facilities is not quite as critical as it appears.

This explanation is less plausible for Stark and Marshall Counties since they are located in a crop reporting district where a higher proportion of the corn is field shelled than in the Northeast and Northwest Districts. Livestock is relatively less important in these two counties than in most of the Northwest Crop Reporting District. The apparent inadequacy of current storage capacity is therefore of more concern in Stark and Marshall Counties than in the remaining counties identified as the fourth area.

An examination of the table on page 6 will provide a brief history of changes in facilities and production in each county and will permit a better assessment of the need for additional storage capacity. Stark County, for example, is of particular interest in this analysis. It ranked highest in the state in 1966-1968 production density, fourth in rate of change in production density, ninth in sales density, and second in rate of change of sales density. Despite the importance and rate of growth in corn production in the county, the sales-storage ratio rose to 3.0 in 1966. Facilities have been expanding somewhat but not fast enough to keep up with the expansion in demand. The improved ratio for 1968 resulted primarily from decreased production and sales of corn.

As already mentioned, local differences below the county level must be considered when planning any expansion. The kind and quality of existing facilities and services may partially compensate for inadequacies in total capacity. Transportation facilities and costs, terminal and subterminal structures included in total capacity figures, and the competitive strength of existing firms must all be taken into account when seeking specific location opportunities. The maps and figures in this publication only identify potential areas that must be examined in more detail.

SELECTED DATA ON CORN PRODUCTION, SALES, AND STORAGE BY COUNTY AND CROP REPORTING DISTRICT[a]

Districts and counties	Production density (1966-'68)	Change in production density (1961-'68)	Projected production density (1975)	Sales density (1966-'68)	Changes in sales density (1961-'68)	Corn moved off-farm at harvest (1967)	Commercial storage capacity (1969)	Sales-storage ratio (1966-'68)
Northwest	bu./acre	bu./100 A.	bu./acre	bu./acre	bu./100 A.	bu./acre	bu./acre	
Bureau	49	2.7	67	27	2.3	10	10	2.7
Carroll	37	5.1	66	9	.9	3	2	3.9
Henry	44	3.6	69	18	1.6	6	7	2.5
Jo Daviess	19	2.0	32	5	.6	2	1	4.4
Lee	41	1.8	55	29	2.1	13	13	2.2
Mercer	40	2.6	58	20	2.0	8	4	5.0
Ogle	41	4.7	67	21	2.1	9	4	5.3
Putnam	41	2.3	61	26	2.1	15	14	1.8
Rock Island	36	1.7	47	17	1.6	8	3	6.5
Stephenson	34	4.8	60	10	.9	3	2	6.1
Whiteside	45	2.4	64	22	1.8	10	20	1.1
Winnebago	33	1.5	46	16	1.3	8	3	6.3
Northeast								
Boone	38	2.7	60	22	1.6	10	11	2.1
Cook	23	−1.1	22	13	.2	6	499	.03
DeKalb	48	4.3	75	23	2.3	7	5	4.5
DuPage	26	0.0	26	18	.9	8	(1)[b]	(10.6)[b]
Grundy	38	5.7	63	32	1.5	14	10	3.2
Kane	41	2.9	66	22	1.6	8	2	10.6
Kendall	46	4.2	70	28	2.1	11	5	5.5
Lake	12	−0.2	12	7	.3	3	(1)[b]	(10.6)[b]
LaSalle	41	1.4	55	31	1.4	11	17	1.9
McHenry	30	3.1	52	16	1.1	6	2	7.3
Will	30	.9	38	24	1.0	10	10	2.4
West								
Adams	23	2.1	36	11	1.0	6	9	1.3
Brown	16	1.2	23	7	.9	5	4	1.9
Fulton	28	.8	35	16	1.5	10	3	5.0
Hancock	30	4.2	52	18	2.1	9	9	2.0
Henderson	18	1.4	47	20	1.2	11	18	1.1
Knox	38	3.8	61	22	1.9	13	13	1.7
McDonough	39	2.8	59	24	1.7	13	8	3.1
Schuyler	20	1.3	30	13	1.2	7	6	2.1
Warren	44	2.8	66	25	1.9	14	20	1.2
West Southwest								
Bond	14	.9	22	7	.5	5	2	3.2
Calhoun	15	.7	21	6	.4	6	(4)[b]	(2.2)[b]
Cass	27	1.5	39	21	1.7	16	16	1.3
Christian	42	1.9	61	34	3.0	24	37	.9
Greene	25	.4	31	12	.7	8	4	3.1
Jersey	22	.1	28	11	.9	8	(4)[b]	(2.2)[b]
Macoupin	25	.6	31	12	1.0	9	7	1.8
Madison	17	.7	24	9	.8	7	23	.4
Montgomery	27	1.5	38	16	1.4	12	10	1.7
Morgan	30	3.0	48	18	1.7	13	10	1.8
Pike	21	1.3	33	9	.7	6	11	.8
Sangamon	42	4.2	66	32	2.9	23	23	1.4
Scott	25	2.3	40	13	1.0	11	7	2.0
Central								
DeWitt	39	1.2	55	34	2.2	21	25	1.4
Logan	46	4.4	75	41	3.0	24	27	1.5
McLean	50	1.0	72	40	2.7	22	34	1.2
Macon	47	2.0	72	42	3.1	26	86	.5
Marshall	42	2.9	62	30	2.3	17	10	2.9
Mason	29	2.4	45	24	1.5	17	15	1.6
Menard	39	5.6	66	26	2.3	16	20	1.3
Peoria	33	1.1	44	22	1.8	13	22	1.0
Stark	51	6.9	87	37	3.7	22	13	2.8
Tazewell	44	4.4	75	37	3.0	22	25	1.5
Woodford	49	2.3	71	41	3.3	25	30	1.4

(Footnotes given on next page.)

SELECTED DATA ON CORN PRODUCTION, SALES, AND STORAGE BY COUNTY AND CROP REPORTING DISTRICT — Concluded

Districts and counties	Production density (1966-'68)	Change in production density (1961-'68)	Projected production density (1975)	Sales density (1966-'68)	Changes in sales density (1961-'68)	Corn moved off-farm at harvest (1967)	Commercial storage capacity (1969)	Sales-storage ratio (1966-'68)
East	bu./acre	bu./100 A.	bu./acre	bu./acre	bu./100 A.	bu./acre	bu./acre	
Champaign	43	3.8	70	39	2.4	16	35	1.1
Ford	40	4.4	69	35	2.6	16	69	.5
Iroquois	41	3.8	67	37	2.6	15	26	1.4
Kankakee	41	2.5	59	36	2.0	17	18	2.0
Livingston	41	1.0	57	36	2.1	16	32	1.1
Piatt	46	1.8	65	39	1.9	20	31	1.2
Vermilion	35	2.5	55	29	1.6	13	33	.9
East Southeast								
Clark	22	1.2	33	13	1.1	8	8	1.7
Clay	12	2.9	25	7	.9	4	3	2.4
Coles	35	1.7	52	27	2.2	17	17	1.7
Crawford	22	3.5	41	13	1.6	8	4	3.5
Cumberland	24	2.2	40	15	1.3	9	1	14.1
Douglas	45	2.0	67	41	2.7	23	22	1.8
Edgar	35	1.3	49	28	2.0	15	24	1.2
Effingham	17	2.5	32	9	.8	4	9	1.0
Fayette	13	.1	15	7	.3	4	5	1.5
Jasper	18	2.2	32	9	.8	6	8	1.1
Lawrence	28	4.8	56	24	2.5	15	2	10.3
Marion	11	2.3	23	7	.7	4	3	2.5
Moultrie	41	5.0	70	38	2.9	22	20	1.9
Richland	19	4.7	37	8	1.0	5	2	3.9
Shelby	29	2.6	48	24	2.1	13	11	2.2
Southwest								
Alexander	8	−1.0	7	6	.3	5	39	.2
Clinton	18	2.0	27	8	.5	6	4	2.0
Jackson	13	1.2	20	8	.6	7	5	1.5
Johnson	7	4.6	20	4	.6	3	..	...
Monroe	18	1.3	26	11	.9	9	7	1.7
Perry	12	2.9	23	6	.6	4	1	7.6
Pulaski	8	.2	14	5	.4	4	9	.6
Randolph	13	1.9	23	7	.4	5	8	.8
St. Clair	19	1.9	30	19	.9	9	30	.6
Union	11	0.0	16	8	.5	6	1	14.1
Washington	11	1.3	18	6	.5	4	6	1.0
Williamson	7	1.2	12	4	.3	3	..	...
Southeast								
Edwards	21	4.3	42	9	.9	6	4	2.1
Franklin	11	.8	17	7	.8	6	2	2.9
Gallatin	38	9.5	86	32	3.8	26	24	1.3
Hamilton	13	3.8	28	8	.9	6	1	12.7
Hardin	8	2.9	18	4	.5	5	..	...
Jefferson	10	1.3	17	4	.4	3	2	2.8
Massac	11	1.9	18	4	.4	3	2	2.7
Pope	4	.1	6	2	.2	1	(2)[b]	(8.7)[b]
Saline	21	7.4	54	21	2.7	15	(2)[b]	(8.7)[b]
Wabash	29	4.9	52	21	2.5	15	2	10.6
Wayne	16	7.7	42	10	1.3	7	7	1.5
White	21	1.3	33	18	1.0	13	4	4.8

[a] These data are based on the annual statistical reports of the Illinois Cooperative Crop Reporting Service, Springfield, Illinois.
[b] To avoid disclosure of individual firms, data for the following pairs of counties were combined: DuPage and Lake; Calhoun and Jersey; Pope and Saline.

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